

Section 1. Registration Information

Source Identification

Facility Name:	Mesquite Generating Station
Parent Company #1 Name:	Mesquite Power, LLC
Parent Company #2 Name:	

Submission and Acceptance

Submission Type:	Re-submission
Subsequent RMP Submission Reason:	5-year update (40 CFR 68.190(b)(1))
Description:	5 Year update
Receipt Date:	03-Apr-2013
Postmark Date:	03-Apr-2013
Next Due Date:	03-Apr-2018
Completeness Check Date:	03-Apr-2013
Complete RMP:	Yes
De-Registration / Closed Reason:	
De-Registration / Closed Reason Other Text:	
De-Registered / Closed Date:	
De-Registered / Closed Effective Date:	
Certification Received:	Yes

Facility Identification

EPA Facility Identifier:	1000 0018 1723
Other EPA Systems Facility ID:	

Dun and Bradstreet Numbers (DUNS)

Facility DUNS:	
Parent Company #1 DUNS:	14256379
Parent Company #2 DUNS:	

Facility Location Address

Street 1:	37625 West Elliot Road
Street 2:	
City:	Arlington
State:	ARIZONA
ZIP:	85322
ZIP4:	
County:	MARICOPA

Facility Latitude and Longitude

Latitude (decimal):	33.346111
Longitude (decimal):	-112.863333
Lat/Long Method:	Interpolation - Map
Lat/Long Description:	Process Unit
Horizontal Accuracy Measure:	12.2
Horizontal Reference Datum Name:	North American Datum of 1927
Source Map Scale Number:	24000

Owner or Operator

Operator Name:	Mesquite Power Operations, LLC
Operator Phone:	(623) 327-0545

Mailing Address

Operator Street 1:	37625 W. Elliot Rd.
Operator Street 2:	
Operator City:	Arlington
Operator State:	ARIZONA
Operator ZIP:	85322
Operator ZIP4:	
Operator Foreign State or Province:	
Operator Foreign ZIP:	
Operator Foreign Country:	

Name and title of person or position responsible for Part 68 (RMP) Implementation

RMP Name of Person:	Steve Perrizo
RMP Title of Person or Position:	Sr. Engineer
RMP E-mail Address:	steven.perrizo@srpnet.com

Emergency Contact

Emergency Contact Name:	Steve Perrizo
Emergency Contact Title:	Sr. Engineer
Emergency Contact Phone:	(623) 866-3183
Emergency Contact 24-Hour Phone:	(602) 236-0055
Emergency Contact Ext. or PIN:	
Emergency Contact E-mail Address:	steven.perrizo@srpnet.com

Other Points of Contact

Facility or Parent Company E-mail Address:	steven.perrizo@srpnet.com
Facility Public Contact Phone:	(623) 327-0308
Facility or Parent Company WWW Homepage Address:	www.sempreenergyresources.com

Local Emergency Planning Committee

LEPC:	Maricopa County LEPC
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Full Time Equivalent Employees

Number of Full Time Employees (FTE) on Site:	33
FTE Claimed as CBI:	

Covered By

OSHA PSM :	Yes
EPCRA 302 :	Yes
CAA Title V:	Yes
Air Operating Permit ID:	V99-017

OSHA Ranking

OSHA Star or Merit Ranking: Y

Last Safety Inspection

Last Safety Inspection (By an External Agency) 07-Feb-2008
Date:
Last Safety Inspection Performed By an External Agency: Never had one

Predictive Filing

Did this RMP involve predictive filing?:

Preparer Information

Preparer Name: GEC
Preparer Phone: (602) 393-4800
Preparer Street 1: 2801 S. 35th St.
Preparer Street 2:
Preparer City: Phoenix
Preparer State: ARIZONA
Preparer ZIP: 85034
Preparer ZIP4:
Preparer Foreign State:
Preparer Foreign Country:
Preparer Foreign ZIP:

Confidential Business Information (CBI)

CBI Claimed:
Substantiation Provided:
Unsanitized RMP Provided:

Reportable Accidents

Reportable Accidents: See Section 6. Accident History below to determine if there were any accidents reported for this RMP.

Process Chemicals

Process ID: 1000041285
Description: Ammonia Inject. System #1
Process Chemical ID: 1000049529
Program Level: Program Level 3 process
Chemical Name: Ammonia (anhydrous)
CAS Number: 7664-41-7
Quantity (lbs): 62000
CBI Claimed:
Flammable/Toxic: Toxic

Process ID:	1000041286
Description:	Ammonia Inject. Systeem #2
Process Chemical ID:	1000049530
Program Level:	Program Level 3 process
Chemical Name:	Ammonia (anhydrous)
CAS Number:	7664-41-7
Quantity (lbs):	62000
CBI Claimed:	
Flammable/Toxic:	Toxic

Process NAICS

Process ID:	1000041285
Process NAICS ID:	1000041688
Program Level:	Program Level 3 process
NAICS Code:	221112
NAICS Description:	Fossil Fuel Electric Power Generation

Process ID:	1000041286
Process NAICS ID:	1000041689
Program Level:	Program Level 3 process
NAICS Code:	221112
NAICS Description:	Fossil Fuel Electric Power Generation

Section 2. Toxics: Worst Case

Toxic Worst ID: 1000034036

Percent Weight:	99.5
Physical State:	Gas liquified by pressure
Model Used:	Areal Locations of Hazardous Atmospheres [ALOHA(R)]
Release Duration (mins):	10
Wind Speed (m/sec):	1.5
Atmospheric Stability Class:	F
Topography:	Rural

Passive Mitigation Considered

- Dikes:
- Enclosures:
- Berms:
- Drains:
- Sumps:
- Other Type:

Section 3. Toxics: Alternative Release

Toxic Alter ID: 1000035985

Percent Weight:	99.5
Physical State:	Gas liquified by pressure
Model Used:	Areal Locations of Hazardous Atmospheres [ALOHA(R)]
Wind Speed (m/sec):	3.0
Atmospheric Stability Class:	D
Topography:	Urban

Passive Mitigation Considered

Dikes:
Enclosures:
Berms:
Drains:
Sumps:
Other Type:

Active Mitigation Considered

Sprinkler System:	Yes
Deluge System:	
Water Curtain:	
Neutralization:	
Excess Flow Valve:	Yes
Flares:	
Scrubbers:	
Emergency Shutdown:	Yes
Other Type:	

Section 4. Flammables: Worst Case

No records found.

Section 5. Flammables: Alternative Release

No records found.

Section 6. Accident History

No records found.

Section 7. Program Level 3

Description

No description available.

Program Level 3 Prevention Program Chemicals

Prevention Program Chemical ID:	1000042521
Chemical Name:	Ammonia (anhydrous)
Flammable/Toxic:	Toxic
CAS Number:	7664-41-7

Prevention Program Level 3 ID:	1000036017
NAICS Code:	221112

Safety Information

Safety Review Date (The date on which the safety information was last reviewed or revised):	27-Feb-2013
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Process Hazard Analysis (PHA)

PHA Completion Date (Date of last PHA or PHA update):	27-Feb-2013
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The Technique Used

What If:	Yes
Checklist:	
What If/Checklist:	
HAZOP:	
Failure Mode and Effects Analysis:	
Fault Tree Analysis:	
Other Technique Used:	
PHA Change Completion Date (The expected or actual date of completion of all changes resulting from last PHA or PHA update):	27-Feb-2013

Major Hazards Identified

Toxic Release:	Yes
Fire:	
Explosion:	
Runaway Reaction:	
Polymerization:	
Overpressurization:	Yes
Corrosion:	
Overfilling:	Yes
Contamination:	
Equipment Failure:	Yes
Loss of Cooling, Heating, Electricity, Instrument Air:	
Earthquake:	
Floods (Flood Plain):	

Tornado:
Hurricanes:
Other Major Hazard Identified:

Process Controls in Use

Vents:
Relief Valves: Yes
Check Valves: Yes
Scrubbers:
Flares: Yes
Manual Shutoffs: Yes
Automatic Shutoffs: Yes
Interlocks: Yes
Alarms and Procedures: Yes
Keyed Bypass:
Emergency Air Supply:
Emergency Power:
Backup Pump:
Grounding Equipment:
Inhibitor Addition:
Rupture Disks:
Excess Flow Device: Yes
Quench System: Yes
Purge System:
None:
Other Process Control in Use:

Mitigation Systems in Use

Sprinkler System: Yes
Dikes:
Fire Walls:
Blast Walls:
Deluge System:
Water Curtain:
Enclosure:
Neutralization:
None:
Other Mitigation System in Use:

Monitoring/Detection Systems in Use

Process Area Detectors: Yes
Perimeter Monitors: Yes
None:
Other Monitoring/Detection System in Use:

Changes Since Last PHA Update

Reduction in Chemical Inventory:
Increase in Chemical Inventory:
Change Process Parameters:
Installation of Process Controls:
Installation of Process Detection Systems:

Installation of Perimeter Monitoring Systems:

Installation of Mitigation Systems:

None Recommended:

None: Yes

Other Changes Since Last PHA or PHA Update:

Review of Operating Procedures

Operating Procedures Revision Date (The date of the most recent review or revision of operating procedures): 16-Aug-2012

Training

Training Revision Date (The date of the most recent review or revision of training programs): 22-Feb-2013

The Type of Training Provided

Classroom: Yes
On the Job: Yes
Other Training: Hands on

The Type of Competency Testing Used

Written Tests: Yes
Oral Tests:
Demonstration: Yes
Observation: Yes
Other Type of Competency Testing Used:

Maintenance

Maintenance Procedures Revision Date (The date of the most recent review or revision of maintenance procedures): 04-Mar-2003

Equipment Inspection Date (The date of the most recent equipment inspection or test): 28-Feb-2012

Equipment Tested (Equipment most recently inspected or tested): Tank system skid

Management of Change

Change Management Date (The date of the most recent change that triggered management of change procedures): 19-Oct-2008

Change Management Revision Date (The date of the most recent review or revision of management of change procedures): 09-Dec-2011

Pre-Startup Review

Pre-Startup Review Date (The date of the most recent pre-startup review): 21-Oct-2008

Compliance Audits

Compliance Audit Date (The date of the most recent compliance audit): 22-Feb-2013

Compliance Audit Change Completion Date (Expected or actual date of completion of all changes resulting from the compliance audit): 30-Nov-2013

Incident Investigation

Incident Investigation Date (The date of the most recent incident investigation (if any)):

Incident Investigation Change Date (The expected or actual date of completion of all changes resulting from the investigation):

Employee Participation Plans

Participation Plan Revision Date (The date of the most recent review or revision of employee participation plans): 22-Feb-2013

Hot Work Permit Procedures

Hot Work permit Review Date (The date of the most recent review or revision of hot work permit procedures): 02-Jul-2012

Contractor Safety Procedures

Contractor Safety Procedures Review Date (The date of the most recent review or revision of contractor safety procedures): 03-Jul-2012

Contractor Safety Performance Evaluation Date (The date of the most recent review or revision of contractor safety performance): 21-Oct-2008

Confidential Business Information

CBI Claimed:

Description

No description available.

Program Level 3 Prevention Program Chemicals

Prevention Program Chemical ID: 1000042522
Chemical Name: Ammonia (anhydrous)

Flammable/Toxic:	Toxic
CAS Number:	7664-41-7

Prevention Program Level 3 ID:	1000036018
NAICS Code:	221112

Safety Information

Safety Review Date (The date on which the safety information was last reviewed or revised):	27-Feb-2013
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Process Hazard Analysis (PHA)

PHA Completion Date (Date of last PHA or PHA update):	27-Feb-2013
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The Technique Used

What If:	Yes
Checklist:	
What If/Checklist:	
HAZOP:	
Failure Mode and Effects Analysis:	
Fault Tree Analysis:	
Other Technique Used:	
PHA Change Completion Date (The expected or actual date of completion of all changes resulting from last PHA or PHA update):	27-Feb-2013

Major Hazards Identified

Toxic Release:	Yes
Fire:	
Explosion:	
Runaway Reaction:	
Polymerization:	
Overpressurization:	Yes
Corrosion:	
Overfilling:	Yes
Contamination:	
Equipment Failure:	Yes
Loss of Cooling, Heating, Electricity, Instrument Air:	
Earthquake:	
Floods (Flood Plain):	
Tornado:	
Hurricanes:	
Other Major Hazard Identified:	

Process Controls in Use

Vents:	
Relief Valves:	Yes
Check Valves:	Yes
Scrubbers:	
Flares:	Yes

Manual Shutoffs:	Yes
Automatic Shutoffs:	Yes
Interlocks:	Yes
Alarms and Procedures:	Yes
Keyed Bypass:	
Emergency Air Supply:	
Emergency Power:	
Backup Pump:	
Grounding Equipment:	
Inhibitor Addition:	
Rupture Disks:	
Excess Flow Device:	Yes
Quench System:	Yes
Purge System:	
None:	
Other Process Control in Use:	

Mitigation Systems in Use

Sprinkler System:	Yes
Dikes:	
Fire Walls:	
Blast Walls:	
Deluge System:	
Water Curtain:	
Enclosure:	
Neutralization:	
None:	
Other Mitigation System in Use:	

Monitoring/Detection Systems in Use

Process Area Detectors:	Yes
Perimeter Monitors:	Yes
None:	
Other Monitoring/Detection System in Use:	

Changes Since Last PHA Update

Reduction in Chemical Inventory:	
Increase in Chemical Inventory:	
Change Process Parameters:	
Installation of Process Controls:	
Installation of Process Detection Systems:	
Installation of Perimeter Monitoring Systems:	
Installation of Mitigation Systems:	
None Recommended:	
None:	Yes
Other Changes Since Last PHA or PHA Update:	

Review of Operating Procedures

Operating Procedures Revision Date (The date of the most recent review or revision of operating procedures):	16-Aug-2012
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Training

Training Revision Date (The date of the most recent review or revision of training programs): 22-Feb-2013

The Type of Training Provided

Classroom: Yes
On the Job: Yes
Other Training:

The Type of Competency Testing Used

Written Tests: Yes
Oral Tests:
Demonstration: Yes
Observation: Yes
Other Type of Competency Testing Used:

Maintenance

Maintenance Procedures Revision Date (The date of the most recent review or revision of maintenance procedures): 04-Mar-2003

Equipment Inspection Date (The date of the most recent equipment inspection or test): 28-Feb-2012

Equipment Tested (Equipment most recently inspected or tested): Tank system skid

Management of Change

Change Management Date (The date of the most recent change that triggered management of change procedures): 29-Mar-2009

Change Management Revision Date (The date of the most recent review or revision of management of change procedures): 09-Dec-2011

Pre-Startup Review

Pre-Startup Review Date (The date of the most recent pre-startup review): 24-Mar-2009

Compliance Audits

Compliance Audit Date (The date of the most recent compliance audit): 22-Feb-2013

Compliance Audit Change Completion Date (Expected or actual date of completion of all changes resulting from the compliance audit): 30-Nov-2013

Incident Investigation

Incident Investigation Date (The date of the most recent incident investigation (if any)):

Incident Investigation Change Date (The expected or actual date of completion of all changes resulting from the investigation):

Employee Participation Plans

Participation Plan Revision Date (The date of the most recent review or revision of employee participation plans): 22-Feb-2013

Hot Work Permit Procedures

Hot Work permit Review Date (The date of the most recent review or revision of hot work permit procedures): 03-Jul-2012

Contractor Safety Procedures

Contractor Safety Procedures Review Date (The date of the most recent review or revision of contractor safety procedures): 03-Jul-2012

Contractor Safety Performance Evaluation Date (The date of the most recent review or revision of contractor safety performance): 29-Mar-2009

Confidential Business Information

CBI Claimed:

Section 8. Program Level 2

Section 9. Emergency Response

Written Emergency Response (ER) Plan

Community Plan (Is facility included in written community emergency response plan?):

Facility Plan (Does facility have its own written emergency response plan?): Yes

Response Actions (Does ER plan include specific actions to be taken in response to accidental releases of regulated substance(s)?): Yes

Public Information (Does ER plan include procedures for informing the public and local agencies responding to accidental release?): Yes

Healthcare (Does facility's ER plan include information on emergency health care?): Yes

Emergency Response Review

Review Date (Date of most recent review or update of facility's ER plan): 01-Feb-2010

Emergency Response Training

Training Date (Date of most recent review or update of facility's employees): 16-Apr-2012

Local Agency

Agency Name (Name of local agency with which the facility ER plan or response activities are coordinated): Maricopa County LEPC

Agency Phone Number (Phone number of local agency with which the facility ER plan or response activities are coordinated): (602) 273-1411

Subject to

OSHA Regulations at 29 CFR 1910.38: Yes

OSHA Regulations at 29 CFR 1910.120: Yes

Clean Water Regulations at 40 CFR 112: Yes

RCRA Regulations at CFR 264, 265, and 279.52: Yes

OPA 90 Regulations at 40 CFR 112, 33 CFR 154, 49 CFR 194, or 30 CFR 254:

State EPCRA Rules or Laws: Yes

Other (Specify): 29 CFR 1910.119, 40 CFR 68, ICP Guidance - EPA

Executive Summary

Mesquite Generating Station

Risk Management Plan

Executive Summary

Management System

The Mesquite Generating Station management system for implementation of the risk management program elements is described below. The Plant Engineer has overall responsibility for the risk management program at the Mesquite Generating Station.

The development and implementation of the risk management program tasks will be performed by the following plant staff: the Plant Engineer, Business Manager, Operations and Maintenance Manager(s), who report to the Plant Manager. The Shift Leads, operation technicians, and maintenance technicians report to the Operations and to the Maintenance Manager(s). Staff members will be responsible for accomplishing RMP program requirements as work activities assigned to their positions.

Anhydrous Ammonia ¿ Regulated Substance and Process Description

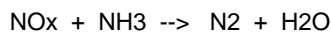
The prevention program for the Mesquite Generating Station covers the anhydrous ammonia storage and injection systems for the two identical Selective Catalytic Reduction (SCR) systems used in each of the two Power Blocks. This RMP prevention program covers the following processes and regulated substance:

Processes 1 & 2: Ammonia storage and injection to the SCR system

Regulated Substance: Anhydrous Ammonia

Process #1 is the system for Power Block #1, and Process #2 is the system for Power Block #2. The ammonia systems procedures are contained in the Mesquite Generating Station Policies and Procedures Manual (PPM) 9.01, titled ¿Ammonia Storage and Transfer System¿.

· Process Chemistry: The two identical SCR systems in Power Blocks #1 and #2 are designed to reduce oxides of nitrogen (NOx) in the combustion turbine exhaust gases. Ammonia vapor is diluted and injected into the exhaust gas ducts upstream of the catalyst beds. The exhaust gas mixes with the ammonia vapor and flows over the catalyst beds, where the NOx is reduced to nitrogen gas and water vapor:



The system uses anhydrous ammonia, which is delivered by tank truck to a bulk storage tank in each Power Block, where the ammonia is stored as a liquefied gas under pressure. When ammonia is needed in the SCR systems, liquid ammonia is taken from the bottom of a storage tank, evaporated in an electric heater, and returned to the tank headspace as vapor. The vapor is fed into a 1000 CFM dilution air stream and injected into the duct as approximately 2.6% ammonia by volume.

· Maximum Planned Inventory: In each of the two Power Blocks, the gross tank volume is 14,000 gallons but a tank will only be filled to a maximum of 85% of capacity, or 12,000 gallons (61,500 lbs at 60 degrees F.), to allow for expansion. The liquid ammonia in 30 feet of 2 inch pipe from a storage tank to its vaporizer inlets, plus 15 to 20 feet of 2 inch fill pipe connected to a tank, is less than 1 pound. The quantity of ammonia in pipes connected to a tank is negligible compared to the tank contents. The maximum planned inventory for anhydrous ammonia is 61,500 lbs in each Power Block, or 123,000 lbs for the plant. The quantity of ammonia in the delivery trucks is not included because the tractors will not be disconnected from the tank trailers during delivery, keeping them under DOT jurisdiction. A full load of ammonia in a delivery truck is 44,000 lbs.

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· Safety Systems

The anhydrous ammonia system includes the safety and alarm systems described below.

Ammonia leak detection sensors, consisting of one per truck unloading skid, one per unloading compressor, 4 per tank, and one per vaporizer, monitor the level of ammonia in the atmosphere. If ammonia is detected above the Low PEL alarm level of 25 ppm, a flashing strobe light is activated at the main leak detection control panel located on the truck unloading skid, and a remote alarm is activated in the plant DCS system to alert control room personnel of a potential leak. If ammonia is detected above the High PEL alarm level of 50 ppm, a flashing strobe light is activated at the main leak detection control panel, a remote alarm is activated in the plant DCS system to alert personnel of a potential leak. An alarm pull station installed at each tank can be pulled manually when a leak occurs to alert the control room

Water-mist ammonia vapor cloud suppression systems, consisting of 4 nozzles at each truck unloading skid, storage tank, and vaporizer skid, are activated by the high PEL alarm.

Each storage tank is equipped with a pressure relief manifold, local and remote indications for level, temperature, and pressure, and a high level signal. Excess flow valves are located on every tank pipe except pressure relief, temperature instrument and level instrument connections.

Ammonia detectors are located in several key places in the storage area. Complete information on the alarm system is provided in the the Mesquite Generating Station Ammonia Supply and Storage Equipment Manual #65162.65.0221

Management of Change

The Management of Change (MOC) program enables the plant staff to maintain control over changes in covered processes by requiring technical review and formal authorization of process changes. The MOC program also ensures that changes affecting existing process procedures are addressed in revisions of written procedures, and that affected employees are properly trained in the changes.

Written Procedures to Manage Changes (40 CFR 68.75 (a))

The process change procedure is labeled "PPM 5.01, Process Change Request" and includes the Design Change process. Design Change Requests (DCRs) are used by System Sponsors and other Team Members to propose changes and modifications to the plant. When a System Sponsor or other Team Member observes that a change in the plant is required as a result of a safety situation, a potential to improve plant efficiency, or a regulatory mandate, they prepare and submit a DCR.

A review group assigned by the Plant Manager reviews the DCR for technical and economic merit. The review group is typically composed of one (1) or more technical Team Members and the Business Manager. Upon completion of the review, the review group will make a recommendation to the Plant Manager. The Plant Management will approve the DCR (if it is within the current year's budget), submit it to the Business Manager as a capital improvement project (budget approval is required), or disapprove the DCR.

Whenever a design or operational change is proposed in a covered process, the person preparing the DCR shall be responsible for determining if any of the following will change:

- Process chemical reactions or chemical phase
- Quantity or composition of covered chemicals, or raw materials, additives, or reactants that would affect covered chemicals
- Safe operating limits for process temperatures, pressures, and flow rates
- Consequences of deviation from safe operating limits
- Process operating procedures
- Equipment electrical classification or materials of construction
- Alarm or relief systems setpoints
- Equipment design specifications
- Any other equipment, operations, or procedures affecting a covered process

If any of these items will be changed by a proposed process change, DCR procedures shall be followed as outlined in the Design Change Request forms

Initial Training (40 CFR 68.71 (a) (1))

Each Mesquite Generating Station employee presently operating a process, and each employee before operating a newly assigned process, shall be trained in the process and operating procedures as specified in §68.69. The training shall cover the specific safety and health hazards, emergency operations including shutdown, and safe work practices applicable to the employee's job tasks.

The Mesquite Generating Station Personal Qualification Standard for employees is labeled "PPM 2.18, Personnel Qualification System. The Personnel Qualification System is a qualification program in which each Team Member is signed off against specific areas of qualification. This documents the Team Member's understanding and competence in administrative, procurement, safety and health, system operation, and maintenance responsibilities which are applicable to the Team Member's position in the staff

organization. Each position at the plant has a specific Personnel Qualification System.

Refresher Training (40 CFR 68.71 (b))

Refresher training shall be provided at least every three years, and more often if necessary, to each the Mesquite Generating Station employee operating or maintaining a SCR ammonia injection system process to assure that the employee understands and follows the current process operating procedures. The Plant Engineer, in consultation with the employees who operate and maintain the process, shall determine the appropriate frequency of refresher training.

Emergency Response Program

Emergency Response Plans

The Mesquite Generating Station Emergency Response Procedures which have been prepared for the site are designed to meet the requirements of 40 CFR 68.95 (a) and (b). As such, the Emergency Response Procedures contained in the site's Integrated Contingency Plan (ICP) for an anhydrous ammonia release will serve as the Risk Management Programs Emergency Response Document.

Outside Agency Coordination

Section (c) of 40 CFR 68.95 requires that the Emergency Response Procedures be coordinated with community emergency response agencies such as the Local Emergency Planning Committee (LEPC) and the State Emergency Response Commission (SERC). The Mesquite Generating Station has established on-going contacts with these agencies, and provided applicable information as requested for the development and implementation of community emergency response plans.

Offsite Consequence Analysis

The offsite consequence analysis for this facility is described below.

1 Worse-Case Release Scenario

The worst case release is modeled for catastrophic failure of the north ammonia storage tank, causing a release of entire contents of the tank in 10 minutes. The tank is not filled to more than 85% of capacity to allow headspace for thermal expansion. The maximum internal temperature of 122 degrees F was modeled because higher internal temperature gave a longer distance to the 200 ppm endpoint, even though the mass of ammonia in an 85% full tank is greater at lower internal temperatures. The model was run for rural conditions because the topography is relatively open between the tank and the largest potential offsite receptor population at the Palo Verde Nuclear Generating Station (PVNGS) directly north of the Mesquite Generating Station.

The model predicts an ammonia concentration of 200 ppm at a maximum distance of 3.1 miles from the tank.

Alternative Release Scenario

The alternative release scenario is a break in 2½" fill line from the tanker trailer to the tank while loading, causing a release of liquid ammonia from 20 ft of hose and 20 ft of 2½" pipe before the driver can shut off the flow. This scenario was selected as the most likely release to occur in the system as constructed and operated at the Mesquite Generating Station. The model was run for urban conditions due to proximity of plant buildings and structures.

Based on a typical temperature of 90 degrees F., the model estimates a release of 0.29 lbs of ammonia and predicts an ammonia concentration of 200 ppm at a distance of 14 yards from the tank. The endpoint concentration does not extend offsite. The footprint was not drawn because the near field patchiness makes dispersion predictions unreliable for short distances.

Five-year Accident History

Known Accidental Releases (40 CFR 68.42 (a))

The five-year accident history shall include all accidental releases from covered processes that resulted in deaths, injuries, or significant property damage on site, or known off-site deaths, injuries, evacuations, sheltering in place, property damage, or environmental damage.

There have been no accidental releases of ammonia that meet the criteria of the rule.

Data Required (40 CFR 68.42 (b))